

**Penerapan Metode Edge Detection Untuk Penentuan Titik Lipatan Pakaian
Pada Usaha Laundry Berbasis Kamera**

(Application of Edge Detection Method for Clothing Fold Point Determination in
Camera-Based Laundry Systems)

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ABSTRACT

The clothes folding process in laundry businesses is still commonly performed manually, requiring considerable time and effort. This study aims to implement the Canny Edge Detection method for clothing contour identification and fold point determination using a camera-based system integrated with Internet of Things (IoT) technology. The system utilizes the YOLOv8l model to identify clothing types, the Canny Edge Detection method to obtain clothing contours, and an ESP32 DevKit V1 microcontroller to control the folding actuator. The test results showed a success rate of 100% for shirts and trousers, and 90% for short-sleeved T-shirts, which was influenced by lighting conditions. The system is also equipped with an object validation feature that prevents the folding process when the detected object is not recognized as clothing. Based on the test results, the integration of YOLOv8l, Canny Edge Detection, and IoT technology effectively supports clothing fold point determination in laundry applications.

Keywords : *Canny Edge Detection, ESP32, Internet of Things, Fold Point Determination, YOLOv8l.*

